

them, (*viz.* with  $1\frac{11}{16}$ ,  $2\frac{3}{8}$ ,  $2\frac{11}{12}$ , and  $3\frac{1}{2}$  Inches, and therefore the Theory of deriving these Rings from the thickness of the plate of Glass of which the Speculum was made, and from the obliquity of the emerging rays agrees with the Observation. In this computation I have equalled the Diameters of the bright Rings made by Light of all Colours, to the Diameters of the Rings made by the bright yellow. For this yellow makes the brightest part of the Rings of all Colours. If you desire the Diameters of the Rings made by the Light of any other unmixed Colour, you may find them readily by putting them to the Diameters of the bright yellow ones in a subduplicate proportion of the intervals of the fits of the rays of those Colours when equally inclined to the refracting or reflecting surface which caused those fits, that is, by putting the Diameters of the Rings made by the rays in the extremities and limits of the seven Colours, red, orange, yellow, green, blue, indico, violet, proportional the Cube-roots of the numbers,  $1, \frac{8}{9}, \frac{5}{6}, \frac{3}{4}, \frac{2}{3}, \frac{3}{5}, \frac{9}{16}, \frac{1}{2}$ , which express the lengths of a Monochord founding the notes in an Eight: For by this means the Diameter of the Rings of these Colours will be found pretty nearly in the same proportion to one another, which they ought to have by the fifth of these Observations.

And thus I satisfied my self that these Rings were of the same kind and original with those of thin plates, and by consequence that the fits or alternate dispositions of the rays to be reflected and transmitted are propagated to great distances from every reflecting and refracting surface. But yet to put the matter out of doubt I added the following Observation.

OBS.

If these Rings of Glass their Diameters be made as are ground optically in a subduplicate proportion to the plates of Glass, true by experience that these Rings depend on the thickness of the plates, before another colour is added to both sides to the plates. Its thickness was of the three first brightest parts from the Glass, the thickness of the other plates of this Glass 310000000 to 1000000000 are 17607 and of these roots the brightest Rings made of Glass, 3.  $4\frac{1}{2}$ .  $5\frac{1}{2}$  in the third of  $1\frac{11}{16}$ .  $2\frac{3}{8}$ .  $2\frac{11}{12}$ , that is, optically in a subduplicate proportion to the plates of Glass. So then in plates of one side, and a quick-silvered